

Wings of War®

CERTIFIED EDIT
• 15 carefully selected models

**EXCELLENT
15 PAPER AIRPLANES
HERITAGE SERIES**



DESIGNED BY
DR. Y. NINOMIYA

Assembly Kit

Dr. Yasuaki Ninomiya was awarded the Grand Prize in both the flight time and distance divisions at the First International Paper Airplane Contest (Pacific Basin Division) in San Francisco in 1967 and served as a judge in the Second Great International Paper Airplane Contest in Seattle in 1985.

Whitewings®

EXCELLENT PAPER AIRPLANES

Assembly Kit for 15 Models

■ Kit includes the following glide:

Zacer 519 "PAPPY"
 Zacer 520 AMELIA
 Zacer 521 JACQUELINE
 Zacer 522 RICHARD
 Zacer 523 "BILLY"
 Frilinear 701 LINDBERG
 Frilinear 702 RICKENBACKER
 Frilinear 703 CHENNAULT
 Light Plane 305 WILBUR
 Light Plane 306 ORVILLE
 McDonnell Douglas PHANTOM II
 "STREGA" (Modified P-51 MUSTANG)
 Lockheed CONSTELLATION
 Lockheed C130 HERCULES
 "VOYAGER"

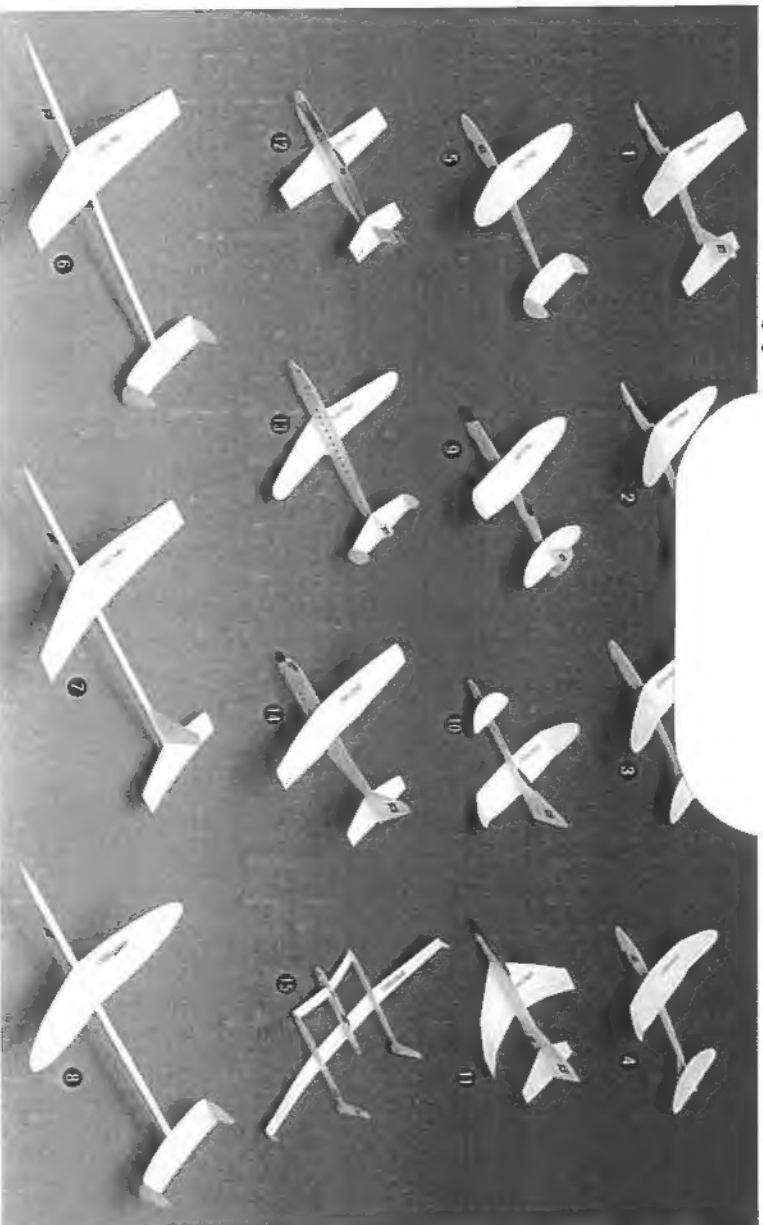
Instruction booklet

60 pages)
Assembly, flight,
and design directions

Also included:

Rubber band
Catapult

(LUE NOT INCLUDED)



FLYING FUN FOR EVERYONE

When you fly your plane please keep the following in mind.

* Launch your plane in a large area away from people who might get hit.
* Don't fly your plane where cars will be passing by.



Stock No. AG1502

AG

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Whitewings[®]

ASSEMBLY INSTRUCTIONS

FLIGHT INSTRUCTIONS

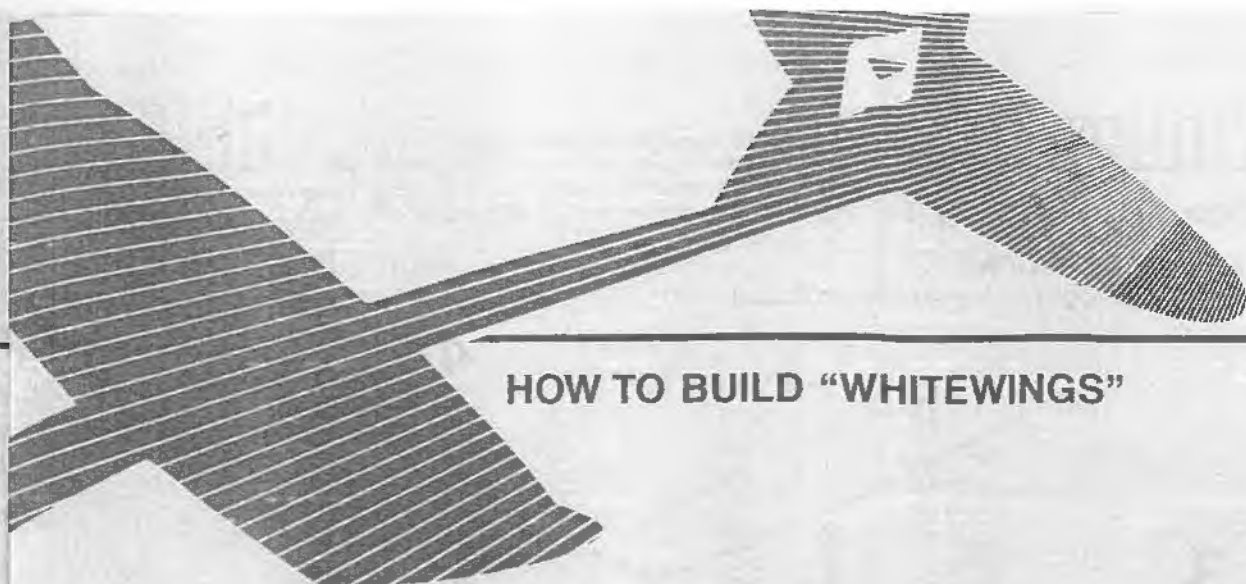
GUIDELINE FOR WHITEWINGS

INTRODUCTION TO PAPER PLANE DESIGN

HOW TO BUILD "WHITEWINGS"



HEROICE SERIES



HOW TO BUILD "WHITEWINGS"

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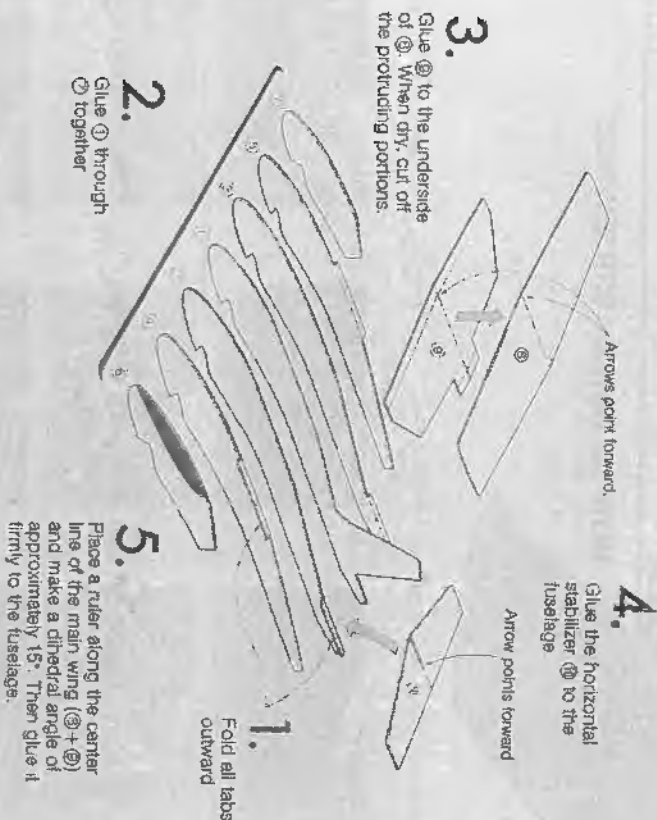


White Wings

Racer 519 "Pappy"

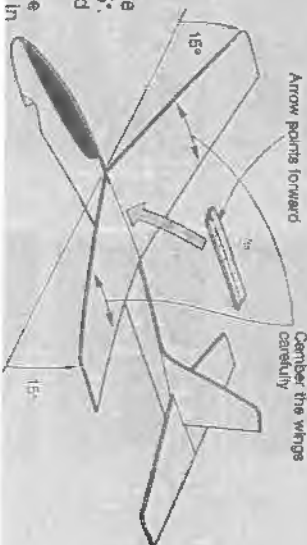
Gregory "Pappy" Boyington (1912-1968)
One of the original members of the "Flying Tigers" group in China, Boyington soon qualified as an ace. Nicknamed "Pappy" by his men, he served as the commander of the celebrated fighting unit, the "Black Sheep".

GLUING INSTRUCTIONS
Glue the parts together in the order indicated.



FINISHING TOUCHES

1. Give the finishing touches to the plane after it dries thoroughly.
2. Camber the main wings carefully with your fingers.
3. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 15°.
4. Fold 11 up slightly along the center line and glue it onto the center of the main wing.
5. View the plane from both the front and the back and straighten any warps or bends in



White Wings

Racer 520 AMELIA

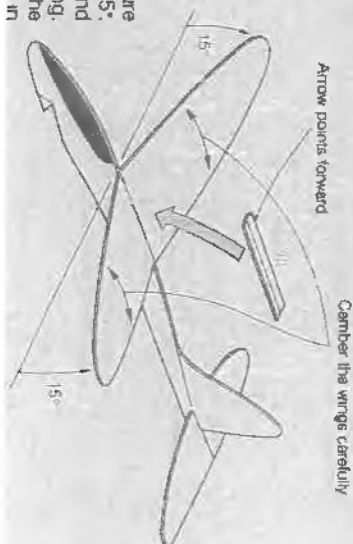
Amelia Earhart (1896-1937)
Beginning her career as a log keeper, Amelia earned instant fame as the first woman to cross the Atlantic as a passenger. She went on to be the first woman pilot to make a solo transatlantic flight.

GLUING INSTRUCTIONS
Glue the parts together in the order indicated.



FINISHING TOUCHES

1. Give the finishing touches to the plane after it dries thoroughly.
2. Camber the main wings carefully with your fingers.
3. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 15°.
4. Fold 11 up slightly along the center line and glue it onto the center of the main wing.
5. View the plane from both the front and the back and straighten any warps or bends in



WhiteWings

HOW TO ASSEMBLE THE MOST WINGS

Three of the racer type planes in this Heritage Series have a high performance main wing featuring a uniform camber along the length of the wing. Because the shape of the central part of the wing resembles a so-called saddle shaped surface in math, I call this type of wing a MOST (Modified Saddle Type) wing. It is constructed as follows:

CAUTION 1

The parts numbers used below are for the Racer 521. As the part numbers and dihedral angle may change according to the model, be careful when you use these instructions for other models.

CAUTION 2

When constructing the Racer 522, start with step 0.

■ Glue parts together in the order indicated.

3. Curve the main wings ⑩ + ⑪ and ⑨ + ⑫ respectively, in the manner shown in the figure on page 9. This curve is called camber.



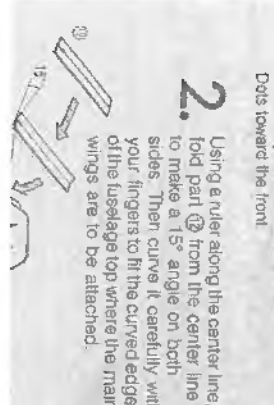
4. Apply glue on half of the underside of ⑩ and glue onto ⑩ + ⑪. (The arrow should point toward the dot.)



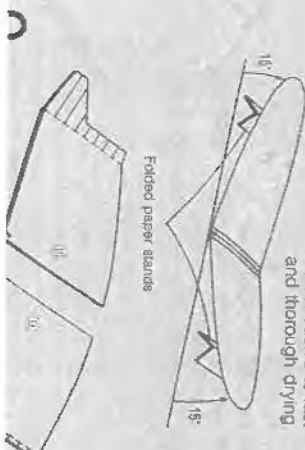
5. In the same manner as in 4 attach ⑨ + ⑫ to the other side of ⑩.

6. Placing the dihedral angle gauge on the main wing check that the dihedral angle is 15°.

7. Putting folded stands under the main wing will be conducive to fast and thorough drying.



2. Using a ruler along the center line, fold part ⑫ from the center line to make a 15° angle on both sides. Then curve it carefully with your fingers to fit the curved edge of the uselage top where the main wings are to be attached.



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Racer 521 JACQUELINE

Jacqueline Cochran (1910-1980)
Soon after her first flying lessons, in 1932, Jacqueline mastered the technical aspects of aviation and navigation. She was the first woman to enter the Bendix Transcontinental Air Race in 1935, and climbed the Bendix Trophy in 1938.

GLUING INSTRUCTIONS
Glue the parts together in the order indicated.

4. Assemble the main wing following the assembly instructions for the MOST wings on page 38

3. Glue the horizontal stabilizer ⑬ to the fuselage



5. Glue the main wing firmly to the fuselage.

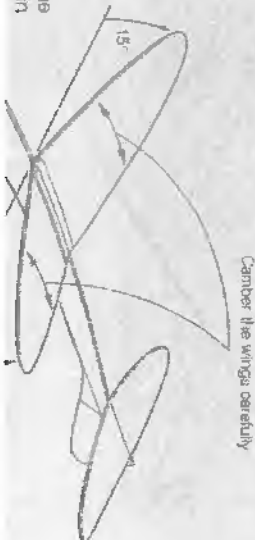
1. Fold all tabs outward.

6. Place the dihedral angle gauge on the main wing to make sure the dihedral angle is 15°.

2. Glue ① through ④ together.

FINISHING TOUCHES

■ Glue the finishing touches to the plane after it dries thoroughly.
7. Camber the main wings carefully with your fingers.
8. View the plane from both the front and the back and straighten any warps or bends in



WhiteWings

HOW TO ASSEMBLE THE MOST WINGS

Three of the racer type planes in this Heritage Series have a high performance main wing featuring a uniform camber along the length of the wing. Because the shape of the central part of the wing resembles a so-called saddle shaped surface in math, I call this type of wing a MOST (Modified Saddle Type) wing; it is constructed as follows.

CAUTION 1

The parts numbers used below are for the Racer 521. As the part numbers and dihedral angle may change according to the model, be careful when you use these instructions for other models.

CAUTION 2

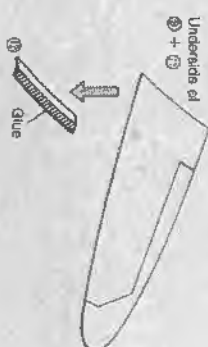
When constructing the Racer 522, start with step 0.

■ Glue parts together in the order indicated

3. Curve the main wings, ③ + ⑩ and ③ + ⑩ respectively, in the manner shown in the figure on page 9. This curve is called camber.



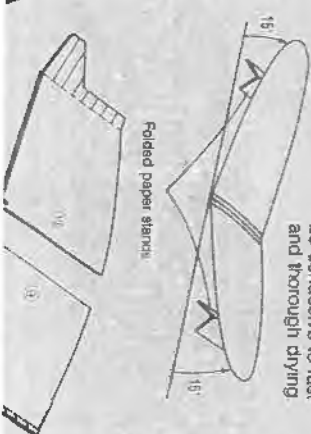
4. Apply glue on half of the underside of ⑩ and glue onto ③ + ⑩. (The arrow should point toward the dot.)



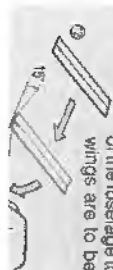
5. In the same manner as in 4, attach ③ + ⑩ to the other side of ⑩.

6. Placing the dihedral angle gauge on the main wing check that the dihedral angle is 15°.

7. Putting folded stands under the main wing will be conducive to fast and thorough drying.



2. Using a ruler along the center line, fold part ⑩ from the center line to make a 15° angle on both sides. Then curve it carefully with your fingers to fit the curved edge of the fuselage loop where the main wings are to be attached.



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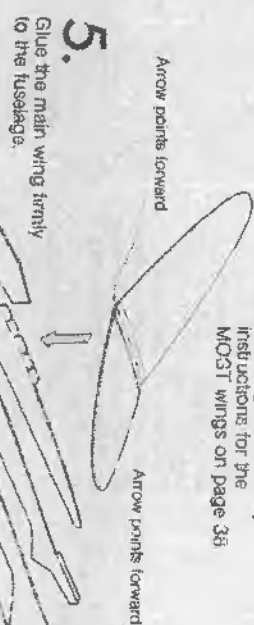
Racer 521 JACQUELINE

Jacqueline Coevert (1910-1960)
Soon after her first flying lessons in 1932, Jacqueline mastered the technical aspects of aviation and navigation. She was the first woman to enter the Bendak Transatlantic Air Race in 1945, and captured the Bendak Trophy in 1938.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

4. Assemble the main wing following the assembly instructions for the MOST wings on page 36.

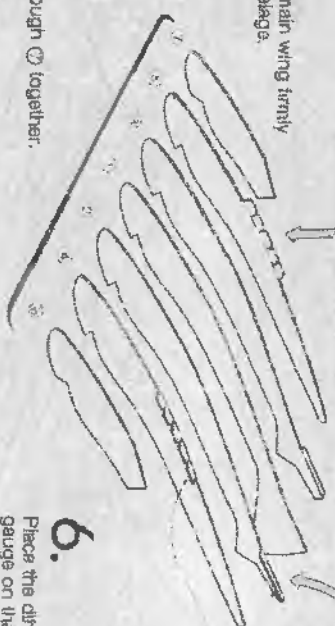


3. Glue the horizontal stabilizer ⑩ to the fuselage.

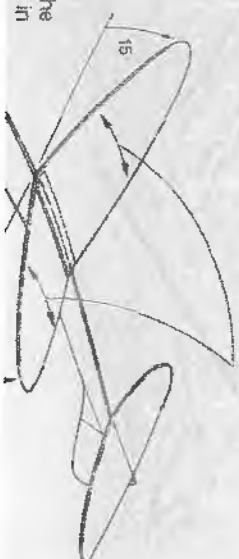
1. Fold all tabs outward.

6. Place the dihedral angle gauge on the main wing to make sure the dihedral angle is 15°.

2. Glue ① through ⑥ together.



Camber the wings carefully



FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
7. Camber the main wings carefully with your fingers.
8. View the plane from both the front and the back and straighten any warps or bends in

White Wings

Racer 522 RICHARD

Richard Le Borg (1920-1945)
Though his career was short-lived, Richard soon established himself as a squadron leader and an ace flyer during World War II. He was awarded the Medal of Honor for his actions during the war and is remembered for his gallantry.

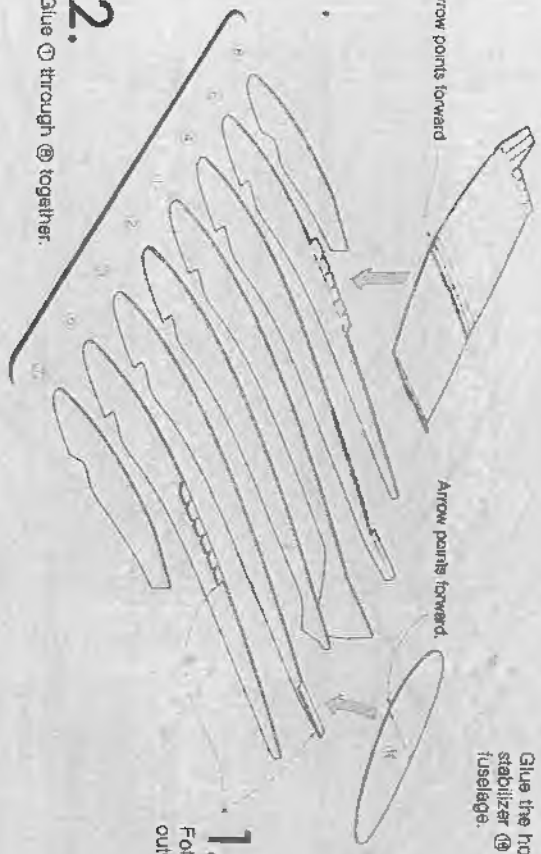
GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

4. Assemble the middle part of the wing with ③, ④, ⑤, ⑥ and ⑦ following the assembly instructions 0, 1, ..., 7, on page 38, starting with step 0. The dihedral angle, however, must be 5°. Be careful as the part numbers for the main wing are different from those listed on page 38.
5. Glue the middle part of the main wing firmly to the fuselage.

3. Glue the horizontal stabilizer ⑫ to the fuselage.

1. Fold all tabs outward.

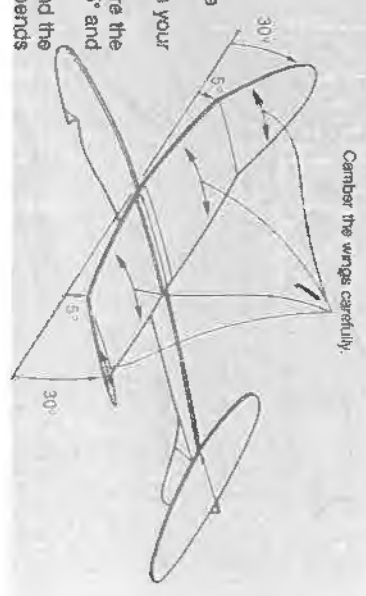


6. Place the dihedral angle gauge on the main wing to make sure the dihedral angle is 5°.

7. Camber both wing tips ⑩ and ⑪. Fold tabs on both ends of the main wing to form a 30° dihedral angle using the gauge and then camber them as well.



8. Apply glue to the top surface of the folded tabs of the main wing. Attach wing tips ⑩ and ⑪ respectively. Once again, check that the dihedral angle at the tip of the wing is 30°, using the gauge.



FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 9. Camber the main wings carefully with your fingers.
- 10. Using the dihedral angle gauge insure the dihedral angle for the main wing is 5° and for the wing tips 30°.
- 11. View the plane from both the front and the back and straighten any warps or bends.

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Racer 523 "BILLY"

William "Billy" Mitchell (1879-1936)
An outspoken proponent of the use of Military Air Power, "Billy" began his career as a private and advanced to the rank of brigadier general. He is known as the first American aviator to fly over enemy lines.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

6.

Assemble the main wing following the assembly instructions for the MOST wings on page 38. Be careful as the part numbers for the main wing are different from those listed on page 38.

5.

Glue the tail section (13+14+15) firmly to the fuselage.

4.

Glue the vertical stabilizers (16 and 17) to the tabs of the horizontal stabilizer (18) aligning the arrows on (16 and 17) with the folded tab lines of (18).

3.

Fold both tabs of the horizontal stabilizer (18) as shown.

7.

Glue the main wing firmly to the fuselage.

2.

Glue (1) through (8) together.

8.

Place the dihedral angle gauge on the main wing to make sure the dihedral angle is 15°.

1.

Fold all tabs outward.

Camber the wings carefully.

FINISHING TOUCHES

1. Give the finishing touches to the plane after it dries thoroughly.
2. Camber the main wings carefully with your fingers.
3. View the plane from both the front and the back and straighten any warps or bends in

WhiteWings

ASSEMBLY INSTRUCTIONS FOR THE TRIANGULAR LONG FUSELAGE

A truly high performance paper plane is light, sturdy, and has little air resistance or drag. This is especially true of larger paper airplanes. That is why I have spent some time researching and designing a fuselage that accommodates the body construction of a larger paper airplane. The result of these efforts was the invention of the triangular long fuselage which is resistant to bending and twisting. Its aerodynamic performance makes it worthy of the WhiteWings' name.

1.

Make firm creases along the dashed lines of fuselage pieces (1) & (2) using a common ordinary table knife (burr knife) and a ruler as a guide. Avoid cutting through the dashed lines.

2.

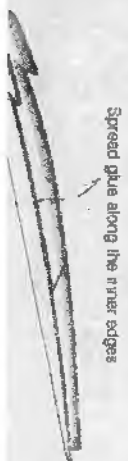
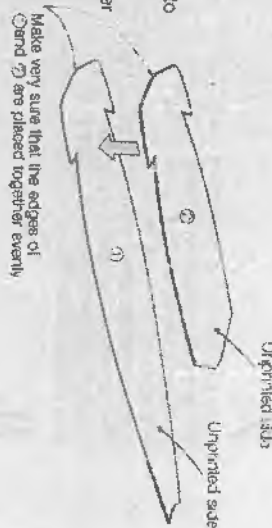
Spread glue evenly over the entire surface of printed side of (1). Apply (2) to the unprinted side of (1). Make very sure that the edges of (1) and (2) that form the plane nose are placed together evenly, or flush, as shown in the diagram.

3.

Before the glue dries, fold (1) and (2) along the creased dashed lines having



The triangular long fuselage is resistant to both bending and twisting.



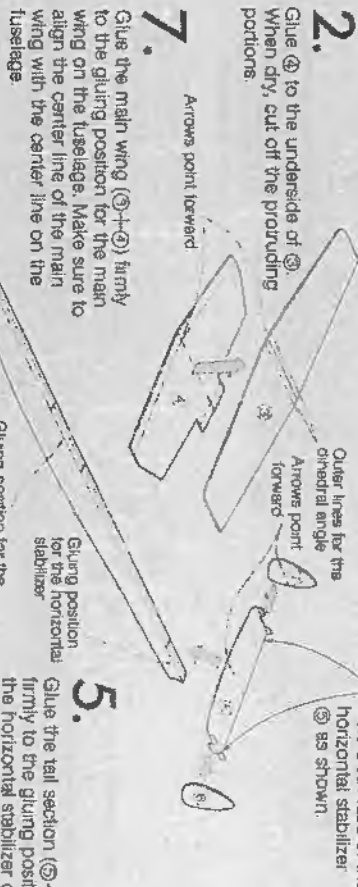
WhiteWings Trilinear 701 LINDBERG

Charles Lindberg (1902-1974)
Mail-order pilot of the Spirit of St. Louis, "Lucky Lindy" made the first solo transatlantic flight. He became a respected aviation consultant, won a Pulitzer Prize for his autobiography, and was awarded a Congressional Medal of Honor.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

1. Assemble the fuselage following the assembly instructions for the triangular long fuselage on pages 43 & 44.
2. Place a ruler along each of the outer lines of the main wing and bend each side up individually to make a dihedral angle of approximately 15° for both sides of the main wing.
3. Glue the vertical stabilizers ⑥ and ⑦ to the tabs of the horizontal stabilizer ⑤ aligning the arrows on ⑥ and ⑦ with the folded tab lines of ⑤.
4. Fold both tabs of the horizontal stabilizer ⑤ as shown.



Glue the main wing (③+④) firmly to the gluing position for the main wing on the fuselage. Make sure to align the center line of the main wing with the center line on the fuselage.

Gluing position for the horizontal stabilizer

Glue the tail section (⑤+⑥+⑦) firmly to the gluing position for the horizontal stabilizer on the fuselage. Make sure to align the center line of the horizontal stabilizer ⑤ with the center line on the fuselage.

FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Camber the main wings carefully with your fingers.
- 9. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 15°.
- 10. View the plane from both the front and the back and straighten any warps or bends in



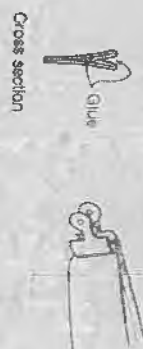
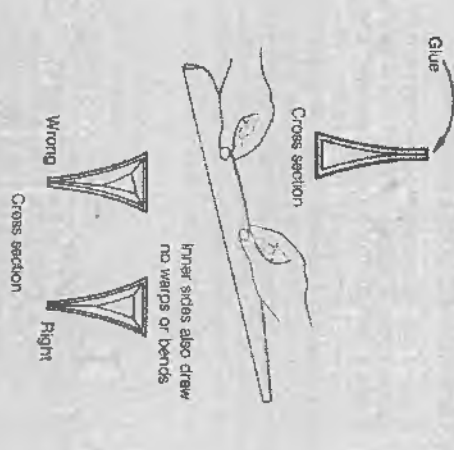
4. Glue the inner edges together to complete the formation of the cross section as shown.

5. View the fuselage closely from both the front and back and carefully straighten any warps or bends before the glue dries. Lock inside of the fuselage to make sure the inner sides also draw no warps or bends.

6. Let the fuselage dry completely by attaching clips or clothespins on the glued edges as shown. It takes at least 2 hours to dry.

7. Make a groove along the thick dashed line at the plane nose by carefully pressing down upon it with a ruler. The groove must be deeper at the tip of the plane nose than at any other part. The remaining area of the top of the fuselage, except for the thick dashed line, should remain flat.

8. Put glue into the groove at the tip of the plane nose and both inner sides of the plane nose and glue together. Let it dry thoroughly (at least 2 hours) using a clip to keep the tip of the nose in place.



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Trilinear 702 RICKENBACKER

Edward Vernon Rickenbacker (1890-1973)
Known as "Eddie" the American pilot's pioneer with machines
began with autogyro flying. He went on to command the 94th
Aircraft Pursuit Squadron and was awarded the Congressional
Médal of Honor for his combat service.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

1.

Assemble the fuselage following the assembly instructions for the triangular long fuselage on pages 43 & 44.

2.

Place a ruler along each of the outer lines of the main wing and bend each side up individually to make a dihedral angle of approximately 15° for both sides of the main wing.

3.

Glue the vertical stabilizer (⑥ + ⑦) to the gluing position for the vertical stabilizer on the fuselage. Make sure to align the folded tab line of the vertical stabilizer with the center line of the fuselage.

4.

Fold ⑧ along the dashed line at a 90° angle and then cut off the protruding portions.

5.

Fold the tab of the vertical stabilizer ⑨. Glue ⑨ to the other side of the vertical stabilizer ⑥.

6.

Glue the horizontal stabilizer ⑩ firmly to the gluing position for the horizontal stabilizer on the fuselage.

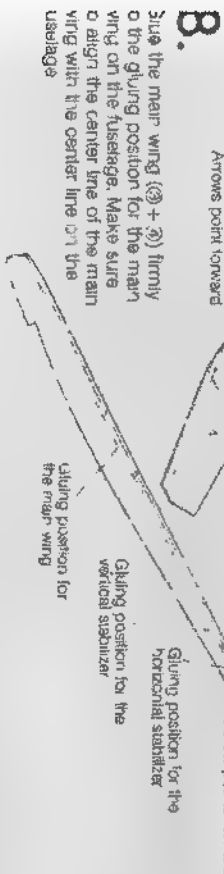
7.

Arrow points forward

Gluing position for the horizontal stabilizer

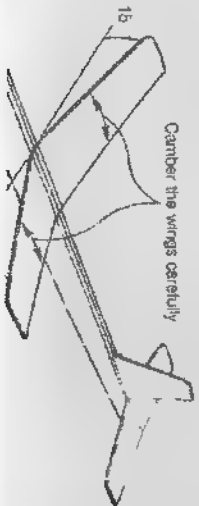
Gluing position for the vertical stabilizer

Gluing position for the main wing



FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 1. Camber the main wings carefully with your fingers.
- 2. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 15°.
- 3. View the plane from both the front and the back and straighten any warps or bends in



WhiteWings

Trilinear 703 CHENNAULT

Clair Lee Chennault (1890-1958)
Owing to a detailed study of pursuit maneuvers and tactics, he
became a specialist in wartime aviation. Because of the expertise he
was recruited by the Nationalist Chinese to train and organize their
air defense forces which became known as the "Flying Tigers".

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

1.

Assemble the fuselage following the assembly instructions for the triangular long fuselage on pages 43 & 44.

2.

Glue ② to the underside of ③. When dry, cut off the protruding portions.

6.

Place a ruler along each of the outer lines of the main wing and bend each side up individually to make a dihedral angle of approximately 15° for both sides of the main wing.

4.

Glue the vertical stabilizers ⑥ and ⑦ to the tabs of the horizontal stabilizer ⑤ aligning the arrows on ⑥ and ⑦ with the folded tab lines of ⑤.

3.

Fold both tabs of the horizontal stabilizer ⑤ as shown.

5.

Glue the tail section (⑤ + ⑥ + ⑦) firmly to the gluing position for the horizontal stabilizer on the fuselage. Make sure to align the center line of the horizontal stabilizer ⑤ with the center line of the fuselage.

Arrow points forward

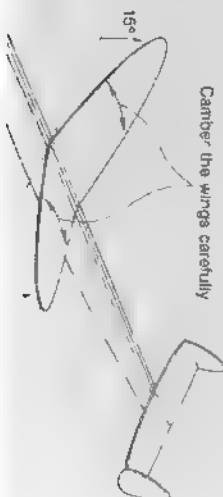
Gluing position for the horizontal stabilizer

Gluing position for the main wing



FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Camber the main wings carefully with your fingers.
- 9. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 15°.
- 10. View the plane from both the front and the back and straighten any warps or bends in



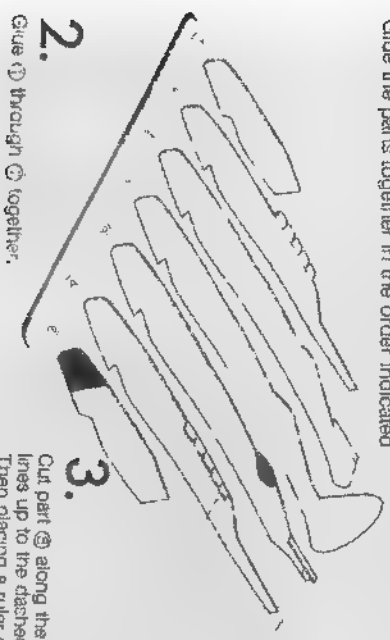
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Light Plane 305 WILBUR

Wilbur Wright (1867-1912)
The pioneer of American aviation experimented with kites and gliders before engineering the first successful, light of a motor powered airplane. His was posthumously elected as was brother Orville to the American Hall of Fame.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated



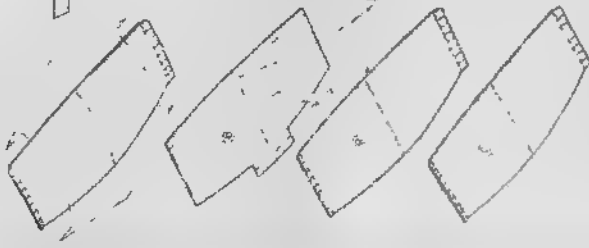
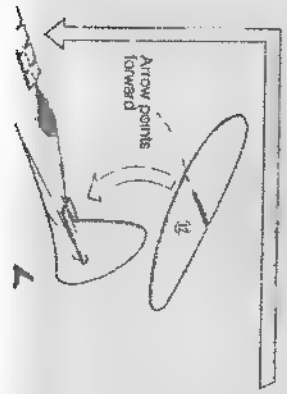
1. Fold all tabs outward

2. Cut part ③ along the solid lines up to the dashed line. Then placing a ruler along the dashed line, bend the resulting strips slightly upward.

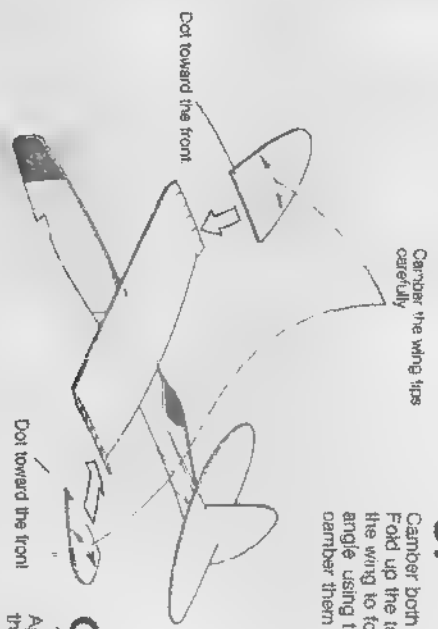
3. Glue ② to the underside of ③. When dry, cut off the protruding portions.

4. Camber the main wing (⑤+⑥) carefully with your fingers.

5. Glue the main wing (⑤+⑥) firmly to the fuselage.



8. Camber both wing tips ⑧ and ⑨. Fold up the tabs on both ends of the wing to form a 30° dihedral angle using the gauge and then camber them as well.



9. Apply glue to the top surface of the folded tabs of the main wing and attach wing tips ⑧ and ⑨ respectively. Using the dihedral angle gauge, once again, check that the dihedral angle for the wing tips are 30°.



Camber the wings carefully

- FINISHING TOUCHES
- Give the finishing touches to the plane after it dries thoroughly.
- Camber the main wings carefully with your fingers.
- Using the dihedral angle gauge make sure the dihedral angle for the wing tips are 30°.
- View the plane from both the front and the back and straiten any warps or bends in



White Wings

Light Plane 306 ORVILLE

Orville Wright (1871-1948)
Considered a dreamer, the ingenious younger brother of the Wright Brothers duo, Orville became one of America's pioneers in aviation through the use of his prolific imagination and the help and encouragement of his brother.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



2. Glue ① through ⑦ together



4. Cut part ④ along the solid lines up to the dashed lines. Then placing a ruler along the dashed line bend the resulting strips slightly upward

7. Camber the front wing (⑩+⑪) in line with the curved tabs for the front wing on the fuselage

Arrows point forward.

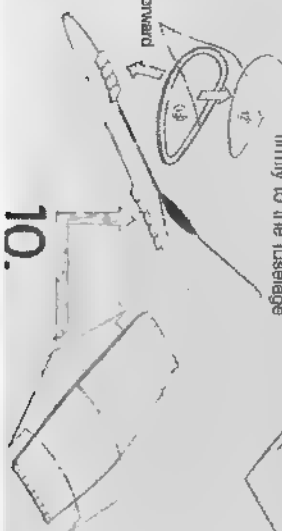
3. Glue ⑩ to the underside of ⑪. When dry, cut off the protruding portions

8. Glue the front wing (⑩+⑪) firmly to the fuselage

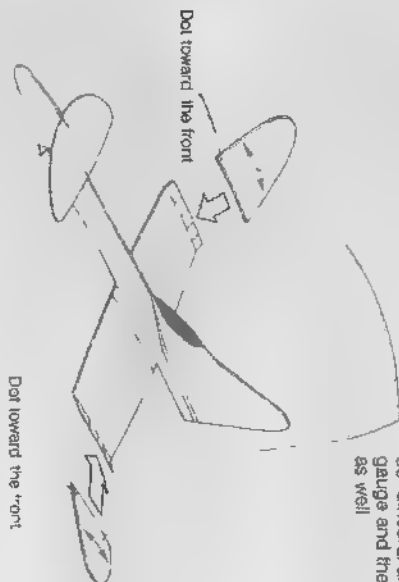
5. Glue ⑤ to the underside of ⑥. When dry, cut off the protruding portions

6. Make a pinhole at both ends of the center line on the top side of the main wing. Turn the main wing over. Link the pinholes together with a ruler and draw a center line on the bottom side of the main wing.

9. Camber the main wing (⑧+⑨) carefully with your fingers.



11. Camber both wing tips of ⑩ and ⑪. Fold up the tabs on both ends of the wing to form a 35° dihedral angle using the gauge and then camber them as well



Dot toward the "front"



12. Apply glue to the top surface of the folded tabs of the main wing and attach wing tips ⑩ and ⑪ respectively. Using the gauge, once again, check that the dihedral angle for the wing tips are 35°

Camber the wings carefully



FINISHING TOUCHES

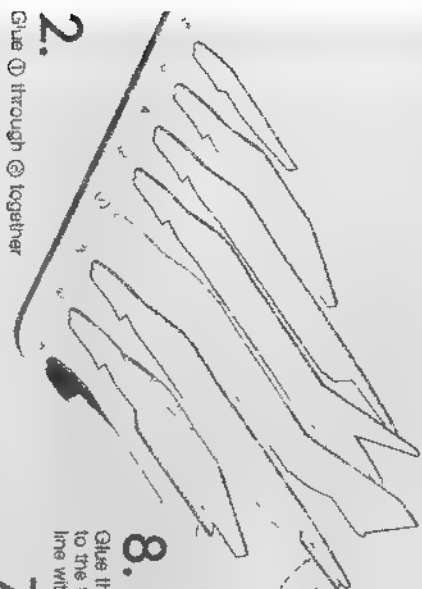
- Give the finishing touches to the plane after it dries thoroughly
13. Camber the main wings carefully with your fingers
14. Using the dihedral angle gauge make sure the dihedral angle for the wing tips are 35°
15. View the plane from both the front and the back and straighten any warps or bends

Whitewings

McDonnell Douglas PHANTOM II

GLUING INSTRUCTIONS

Glue the parts together in the order indicated



2. Glue ① through ③ together

6.

Make a pinhole at both ends of the center line on the top side of the main wing. Turn the main wing over. Link the pinholes together with a ruler and draw a center line on the bottom side of the main wing.

Arrow point forward



Quarter the wingtips carefully

Place a ruler along the lines on the wing tips and make a dihedral angle of approximately 23°.

3.

Glue ④ to the underside of ⑥. When dry, cut off the protruding portions.

- **FINISHING TOUCHES**
- Give the finishing touches to the plane after it dries thoroughly.
- 7. Camber the wingtips carefully with your fingers.
- 8. Using the dihedral angle gauge make sure the dihedral angle for the wing tips are 23° and for the horizontal stabilizer minus 12°.
- 9. View the plane from both the front and the back and straighten any warps or bends in



4. Place a ruler along the center line of the horizontal stab. ④ and make a dihedral angle of approximately 12°.

5.

Turn the horizontal stabilizer ④ upside down and glue it firmly to the fuselage to form a dihedral angle of minus 12°.

1. Fold all tabs outward

8. Glue the main wing (② + ③) firmly to the fuselage aligning its center line with the center of the fuselage.

7.

Whitewings

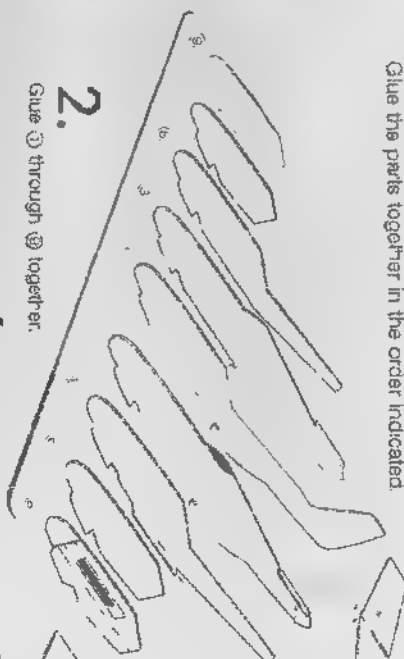
"STREGA" (Modified P-51 MUSTANG)

Each year, in September, the city of Reno holds a National Championship Air Race (Reno is in the Nevada Desert about 220 miles northeast from San Francisco). The Strega achieved a new race record with an average speed of 454 mph in the Reno Air Race in 1987. The

unfitted class is composed of many racing models, including modified battle planes with great horsepower such as the Mustang, Bearcat, Corsair, and Sea Fury, that were at work during World War II. The Strega, meaning "witch" in Italian, is a remodeled Mustang P-51.

GLUING INSTRUCTIONS

Glue the parts together in the order indicated

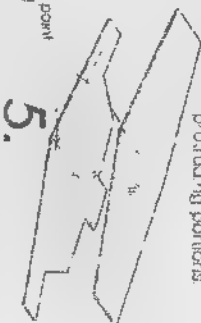


2. Glue ① through ③ together.

6.

Place a ruler along the center line of the main wing (② + ③) and make a dihedral angle of approximately 12°. Then glue it firmly to the fuselage.

Arrows point forward



5.

Make a pinhole at both ends of the center line on the top side of the main wing. Turn the main wing over. Link the pinholes together with a ruler and draw a center line on the bottom side of the main wing.

Camber the wings carefully

- **FINISHING TOUCHES**
- Give the finishing touches to the plane after it dries thoroughly.
- 7. Camber the main wings carefully with your fingers.
- 8. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 12°.
- 9. View the plane from both the front and the back and straighten any warps or bends in



4.

Glue the horizontal stabilizer ④ firmly to the fuselage.

Arrow points forward

1.

Fold all tabs outward

3.

Glue ④ to the underside of ⑥. When dry, cut off the protruding portions.

WhiteWings

Lockheed CONSTELLATION

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

8.

Glue ⑧ to ⑩ aligning the folded tab lines of ⑩ with the center line on ⑩.

7.

Fold tabs of the vertical stabilizer ⑦ as shown.

5.

Glue the vertical stabilizers ⑤ and ⑥ to the tabs of the horizontal stabilizer ④ aligning the arrows on ⑤ and ⑥ with the folded tab lines of ④.

4.

Fold both tabs of the horizontal stabilizer ④ as shown.

6.

Glue the tail section (⑥ + ⑦ + ⑧) firmly to the fuselage.

1.

Fold all tabs outward.

2.

Glue ① through ⑩ together.

10.

Place a ruler along the center line of the main wing (⑩ + ⑪) and make a dihedral angle of approximately 10°. Then glue it firmly to the fuselage.

9.

Arrows point forward.

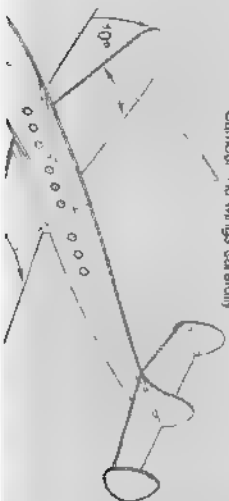
3.

Glue ③ to the underside of ⑩. When dry, cut off the protruding portions.

Camber the wings carefully.

FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 1. Camber the main wings carefully with your fingers.
- 2. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 10°.
- 3. View the plane from both the front and the back and straighten any warps or bends in



WhiteWings

Lockheed C130 HERCULES

GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

3.

Glue ③ to the underside of ②. When dry, cut off the protruding portions.

4.

Turn the horizontal stabilizer ④ upside down and glue ④ to the fuselage aligning the center line on ④ with the center of the fuselage.

5.

Place a ruler along the center line of the main wing (⑤ + ⑥) and make a dihedral angle of approximately 7°. Then glue it firmly to the fuselage.

Arrows point forward.

2.

Glue ① through ④ together.

1.

Fold all tabs outward.

Camber the wings carefully.

Arrows point forward.

FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 6. Camber the main wings carefully with your fingers.
- 7. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 7°.
- 8. Fold ① up slightly along the center line and glue it onto the center of the main wing.
- 9. View the plane from both the front and the back and straighten any warps or bends in



WhiteWings "VOYAGER"

GLUING INSTRUCTIONS

Glue the parts together in the order indicated

2. Glue ① through ③ together to make the center fuselage

After a 9 day and 25,012 mile flight around the world, non-stop on a single load of fuel, Dick Rutan and Jeana Yeager landed the Voyager in the record books on December 23, 1987. This revolutionary plane took an incredible 22,000 man hours to construct and is the only long range, fuel efficient aircraft of its type in the world.

Wing Span..... 110 ft
Fuselage Length..... 25 ft 4 in
World Flight Take-off Wt..... 11,326 lbs
Fuel Wt (1,489 gal)..... 8,934 lbs

FINISHING TOUCHES

18. Give the finishing touches to the plane after it dries thoroughly
19. Camber the main wings carefully with your fingers
20. Bend the main wings up slightly at the joints of both the right and left fuselage to make the dihedral angle for the main wing. The wing tips should be raised about 2 3/4" (3/4" from the horizontal level)

8. Glue ① through ③ together to make the right fuselage

12. Glue the right fuselage to the main wing. Make sure to align the gluing position line on the bottom side of the main wing with the center of the right fuselage

10. Glue the center fuselage to the main wing. Make sure to align the center line on the bottom side of the main wing with the center of the fuselage

11. Glue the left fuselage to the main wing. Make sure to align the gluing position line on the bottom side of the main wing with the center of the left fuselage

7. Fold the tabs outward

5. Fold the tabs outward



Camber the wings carefully

5. Make the right front wing by folding ④ along the dashed line and gluing together. Make sure the printed side faces outward

14. Glue the left front wing ④ on top of the tabs between the center fuselage and the nose area of the left fuselage

17. Fold up both ends of the main wing at a 90° angle along the dashed line

6. Glue ③ through ⑤ together to make the left fuselage.

6. Make the right front wing ④ by folding ④ along the dashed line and gluing together. Make sure the printed side faces outward

4. Glue the left main wing ④ onto ④ aligning the center line of ④ with the center line of ④

9. Make a pinhole at both ends of the gluing position on the main wing for both the right and left fuselage. Turn the main wing over. Link the pinholes together with a ruler and draw a gluing position line on the bottom side of the

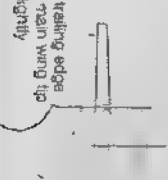
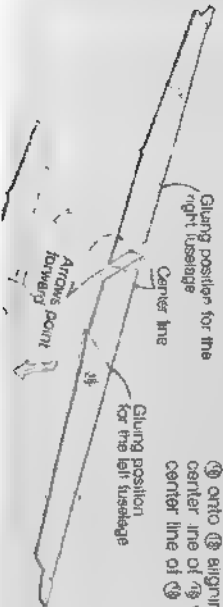
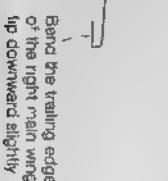
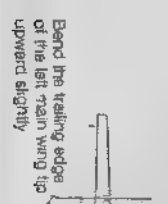
1. When the plane dries right

TEST FLIGHT

Try to test fly your plane when there is as little wind as possible. Throw the plane gently either horizontally or slightly downward. Adjust it in the order indicated to ensure a straight flight.

2. When the nose goes up or down.

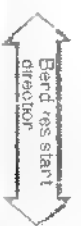
- (a) Bend the trailing edge of it a front wing slightly upward
- (b) Ideal
- (c) Bend the trailing edge of the front wing slightly downward



WhiteWings®

McDonnell Douglas PHANTOM II

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Fold with dashed line inside
Arrows point forward

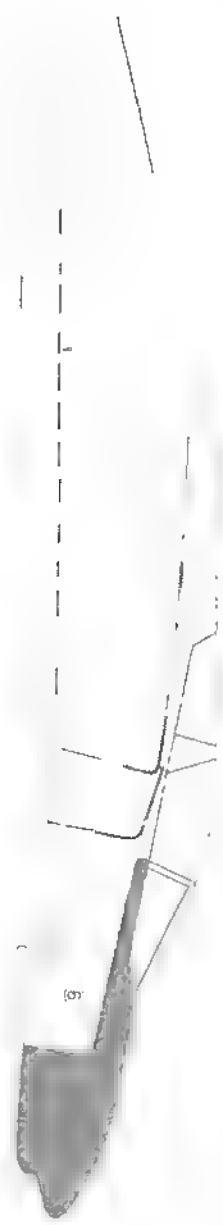




41



7



2



68



Arrow points forward

13

Make the dihedral angle
along this line.

WhiteWings

Make the dihedral
angle along this line

Arrow
points forward

Dihedral angle gauge
for the wing tips

18

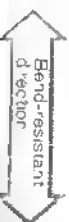
23

Dihedral angle gauge
for the horizontal stabilizer

12

12

Arrows point forward



WhiteWings[®] McDonnell Douglas PHANTOM II

Arrow points forward

WhiteWings

Arrow points forward

11

Cut along the solid lines up to the dashed line.

12 13

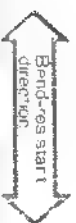
Arrow points forward

Arrow points forward

Cut along the solid lines up to the dashed line.

Cut along the solid lines up to the dashed line

Fold with dashed line inside. Arrows point forward



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Lockheed CONSTELLATION

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Dihedral angle gauge

0°

10°



100

Arrow points forward

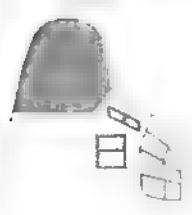
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Dihedral angle gauge

Arrow points forward

9



Arrow points forward

Arrow points forward

10

WhiteWings® Lockheed C130 HERCULES

Fold with dashed line inside
Arrows point forward



Band-resistant action

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9

10

11

13

N269VA

15

12

14

16

N269VA

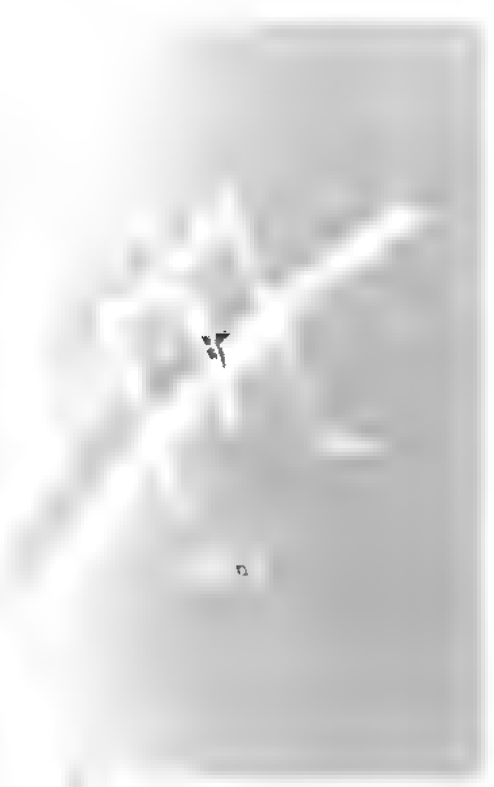


WhiteWings[®]

"VOYAGER"

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Fold with dashed line
Arrows point forward.



Fold up along the dashed line at a 90° angle

10

11

Arrow points forward

12

Arrow points forward

Gluing position for the left fuselage

Arrow points forward

13

Whitewings

2

1

4

6

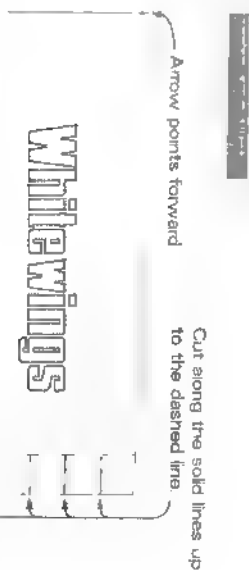
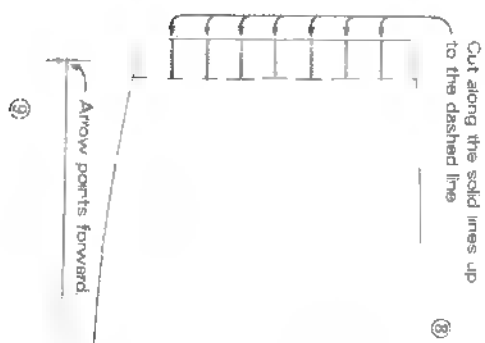
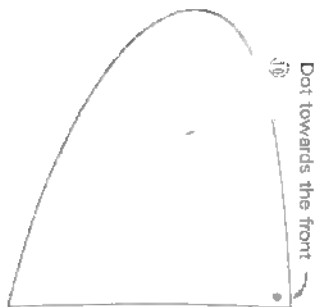
5

Fold up along the dashed line at a 90° angle

Make an incision up to the dashed line

Make an incision up to the dashed line

7



Dihedral angle gauge

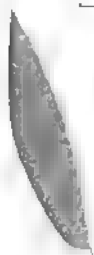
Whitewings

Light Plane 306 ORVILLE



Fold with dashed line inside
Arrows point forward

Cut along the solid lines up
to the dashed line



2

Cut along the solid lines up
to the dashed line



3

4

5

6



Arrow points forward

12

Cut along the solid lines up
to the dashed line.

8

Arrow points forward

WhiteWings

Cut along the solid lines up
to the dashed line

Arrow points forward

9

Dot towards the front

11

Dot towards the front

10

WhiteWings®

Light Plane 305 WILBUR

Fold with dashed line inside
Arrow's point forward



Dihedral angle gauge

43

4

3

3

6

7

2

5



Dot towards the front

Arrow points forward

13

Dot towards the front

White wings

11

Dot towards the front

Arrow points forward

12

Arrow points forward

14

Arrow points forward

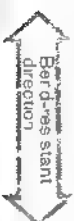
Dot towards the front

15

Cut along the solid lines
up to the dashed line.

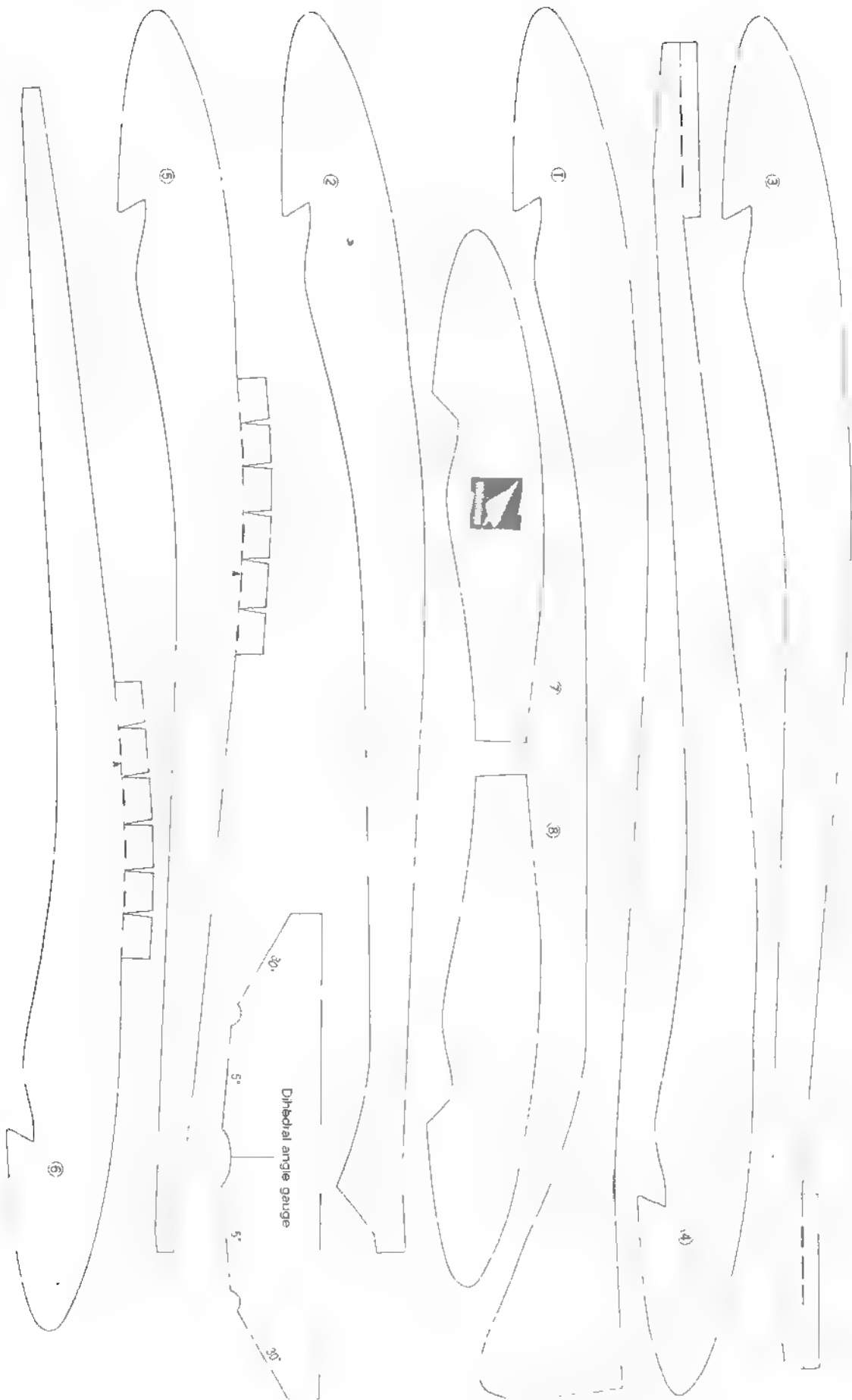
Cut along the solid lines
up to the dashed line.

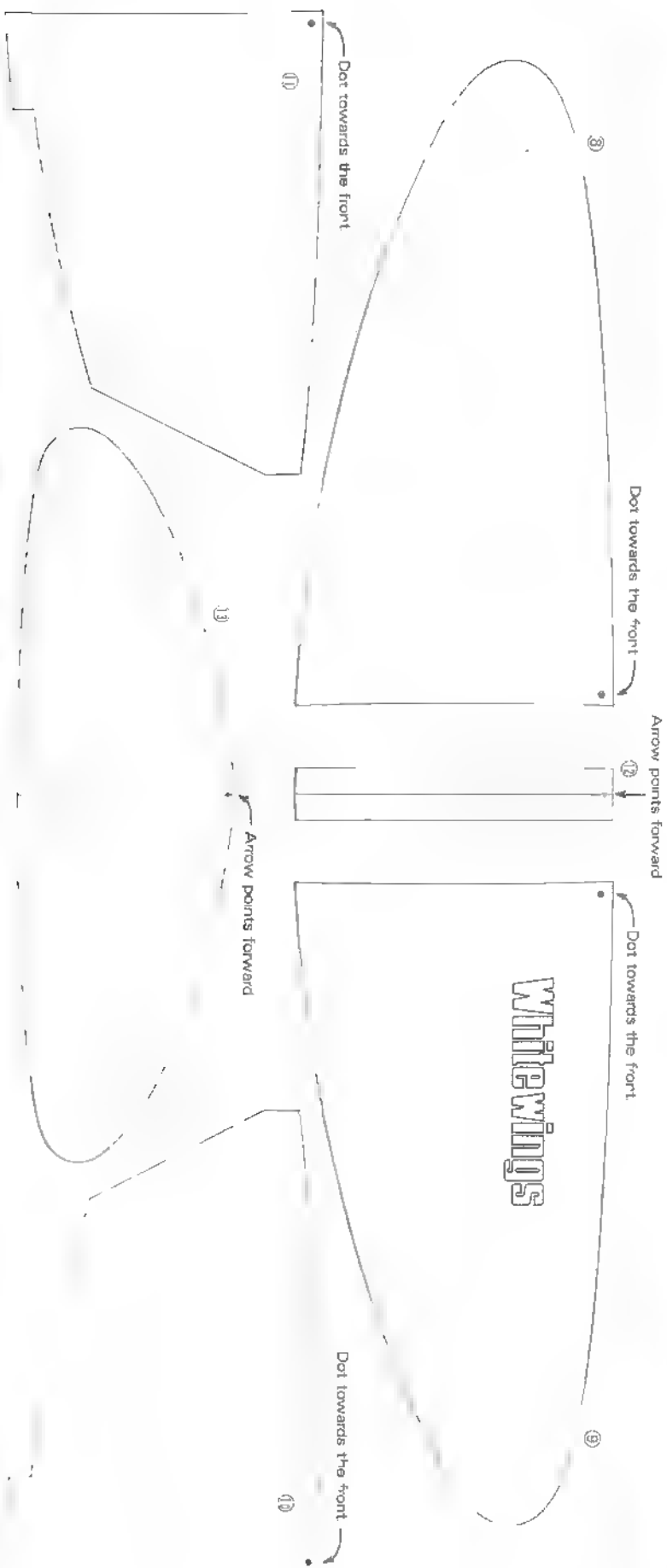
Fold with dashed line inside.
Arrows point forward



White wings[®]
Racer 523 "BILLY"

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White Wings[®]

Racer 521 JACQUELINE

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Fold with dashed line inside
Arrows point forward



⑧

Arrow points forward

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Arrow points forward

⑨

Dihedral angle gauge

15°

15°

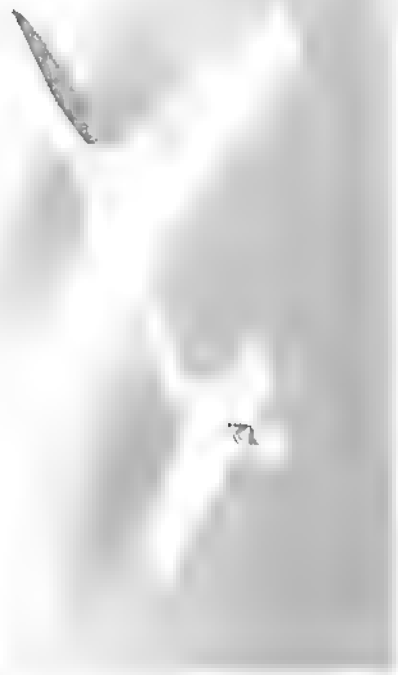
⑩

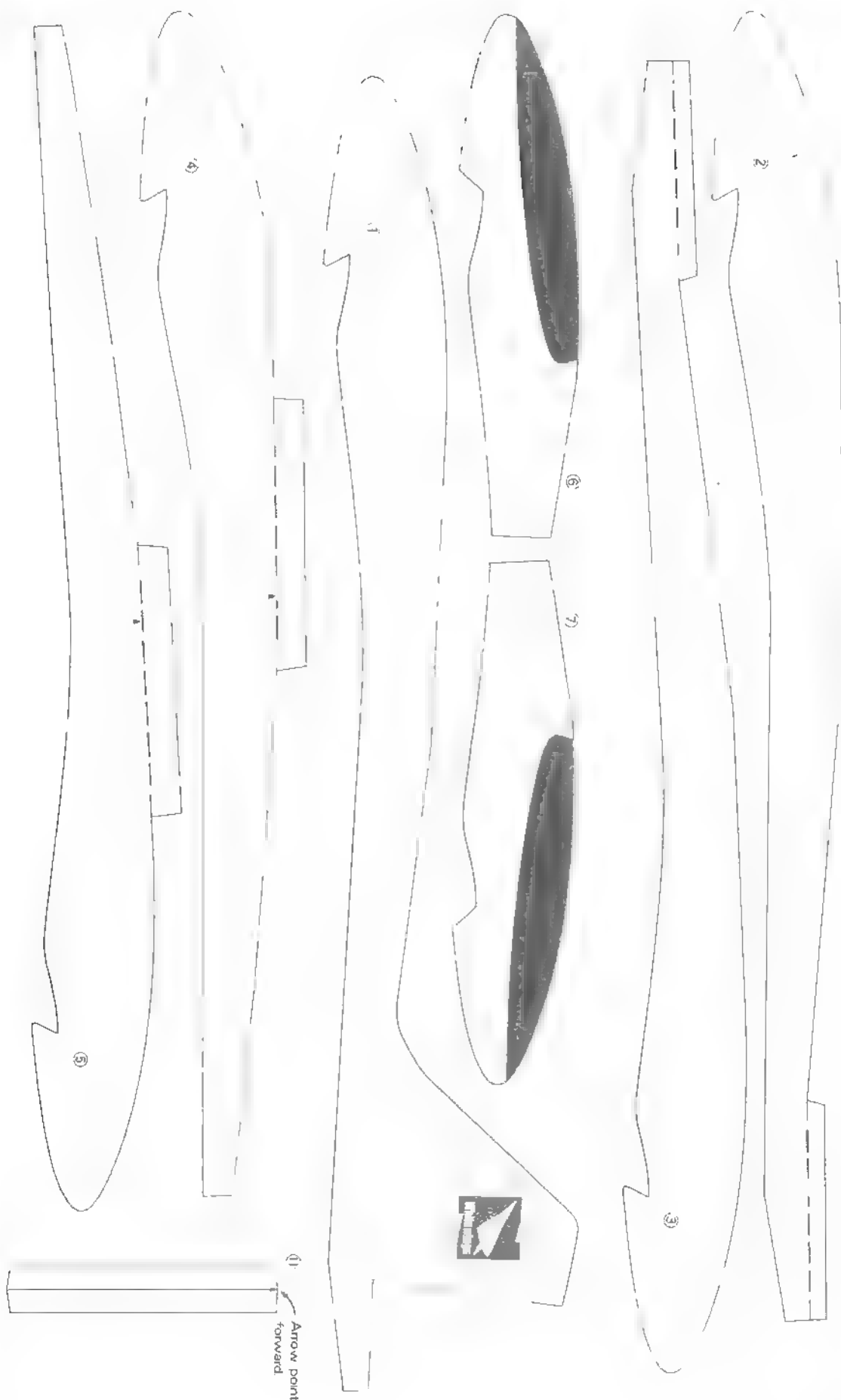
Fold with dashed line inside
Arrows point forward

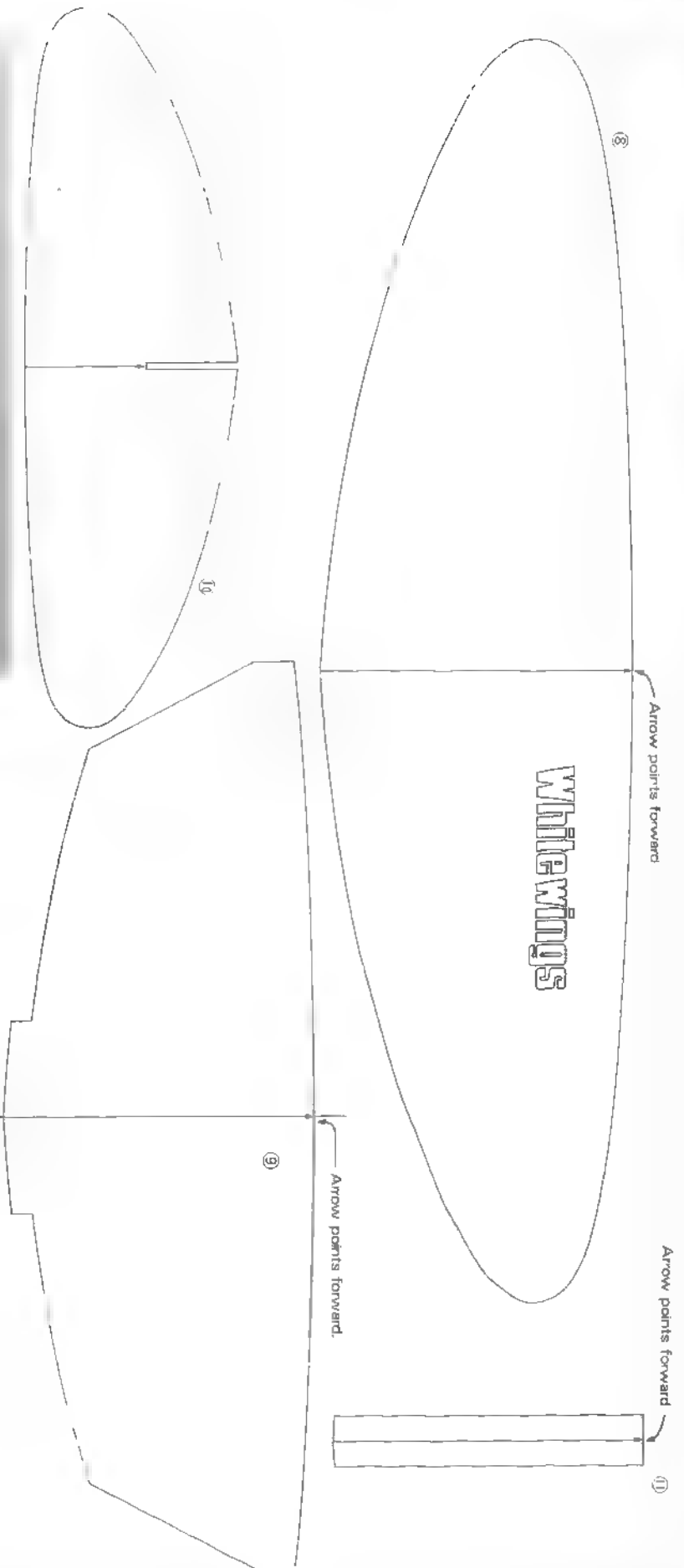


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Racer 519 "PAPPY"

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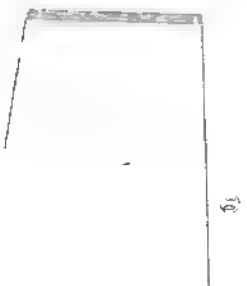




WhiteWings®

Racar 520 AMELIA





1

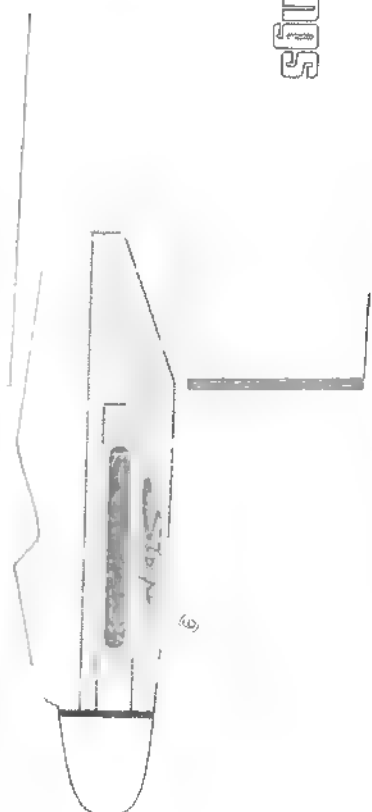
Arrow points forward

WhiteWings



Arrow points forward

2



3



4

Arrow points forward

5

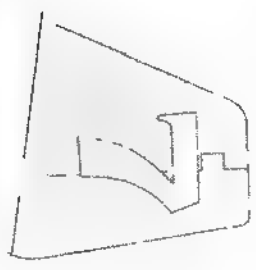
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"STREGA" (Modified P-51 MUSTANG)



Bend resistant direction

Fold with dashed line inside
Arrows point outward



12°
12°
Dihedral angle gauge



①

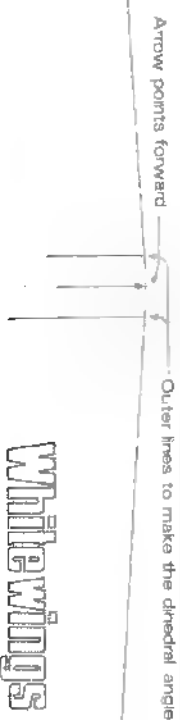


Arrow
points
forward

②



③



White Wings

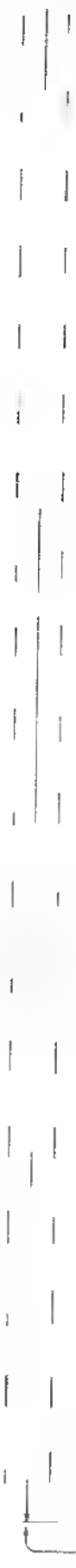
Make firm
creases along
the dashed line

1



Make firm creases
along the dashed lines

2



Arrow points forward



Outer lines to make the dihedral angle



Arrow
point
forward

Whitewings





Make firm
creases
along the
dashed lines



Dihedral angle gauge

15°

15°

Then fold up along the
dashed line at a 90° angle (7)

First cut out the
line.
After folding, trim
along the solid line

Arrow
points
forward

(4)

W
Is
and

(6)

Arrow
points
forward

Fold the tab along this
dashed line

(5)

Arrow points forward

Fold with dashed line inside
Arrows point forward



Band-aid start
direction

White Wings®

Trilinear 702 RICKENBACKER

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Arrow
points
forward

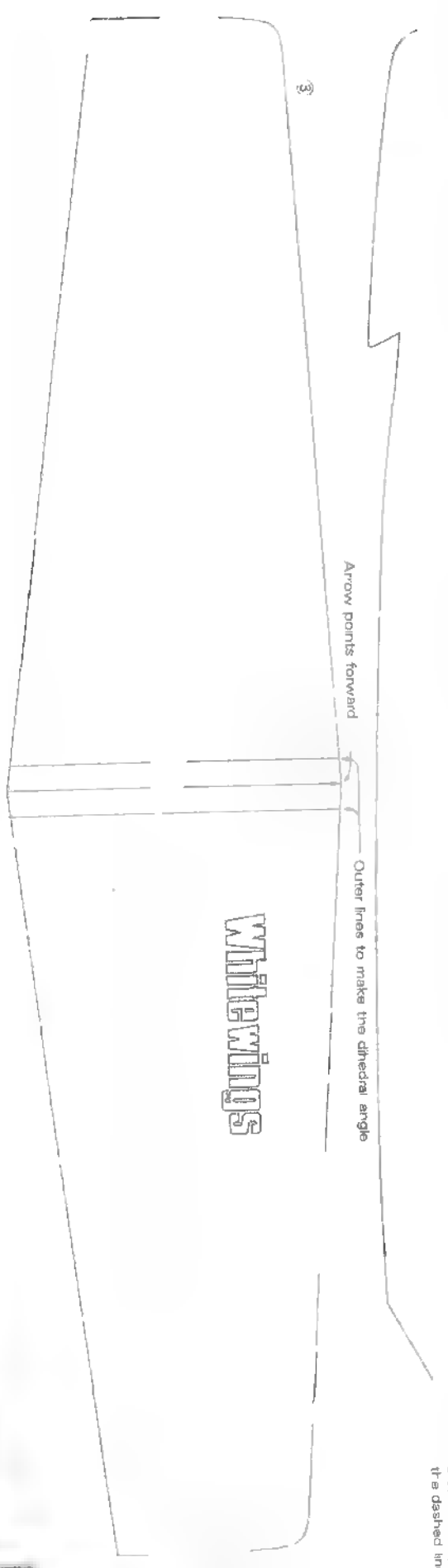
2

Arrow points forward

Outer lines to make the dihedral angle

Whitewings

Make firm
creases along
the dashed line





Make firm creases along the dashed lines.

Dihedral angle gauge

15°

15°

Arrow points forward

Fold with dashed line inside
Arrows point forward.



Arrow
points
forward

Arrow
points
forward

Arrow
points
forward

Arrow points forward

Arrow points forward

Cut along the solid lines up to the dashed lines

WhiteWings[®] Trilinear 703
CHENNAULI

Make firm creases along
the dashed lines

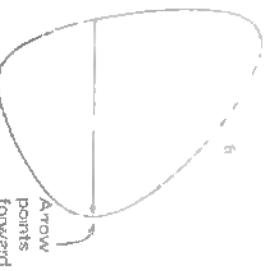


Arrow points forward

--- Fold with dashed line inside
Arrows point forward



N
S
and



Arrow points forward

Arrow points forward

Arrow points forward

Shawinco Trilinear 703
CHENNAI

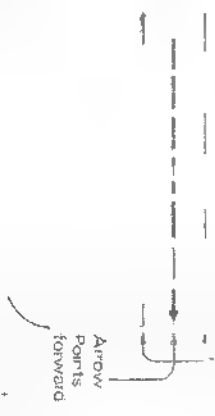
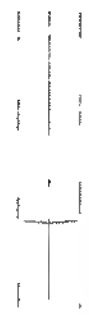
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Auto
point
tow

Arrow points forward _____ Outer lines to make the vertical angle

White wings

W
LS
8/77



Take firm
creases
along the
dashed lines

12°

Dihedral angle gauge

15°



After folding, trim
along the solid line

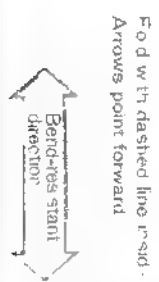


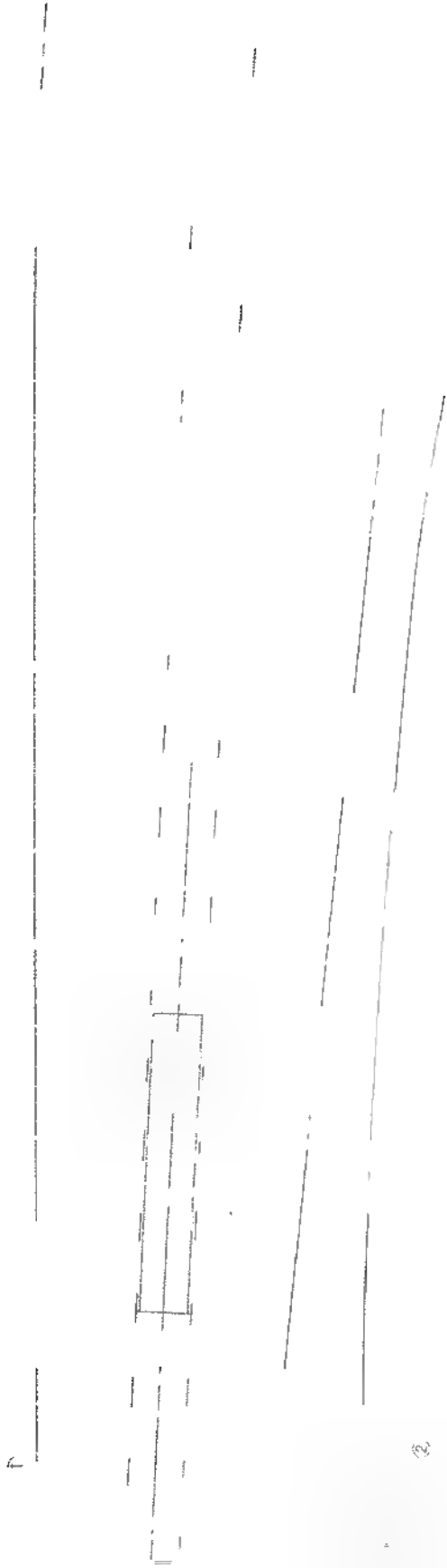
Arrow points forward

WhiteWings®

Trilinear 702 RICKENBACKER

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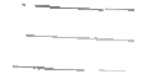


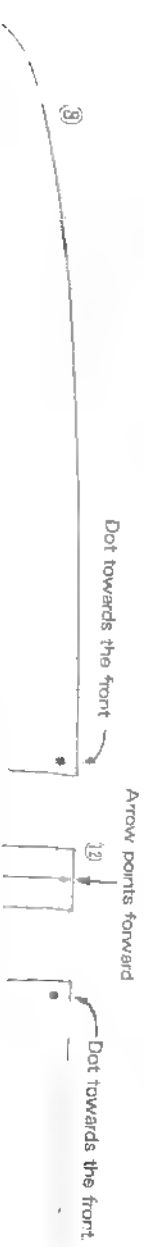


Outer lines to make the dihedral angle

Arrow points forward

White wings





Whitewings

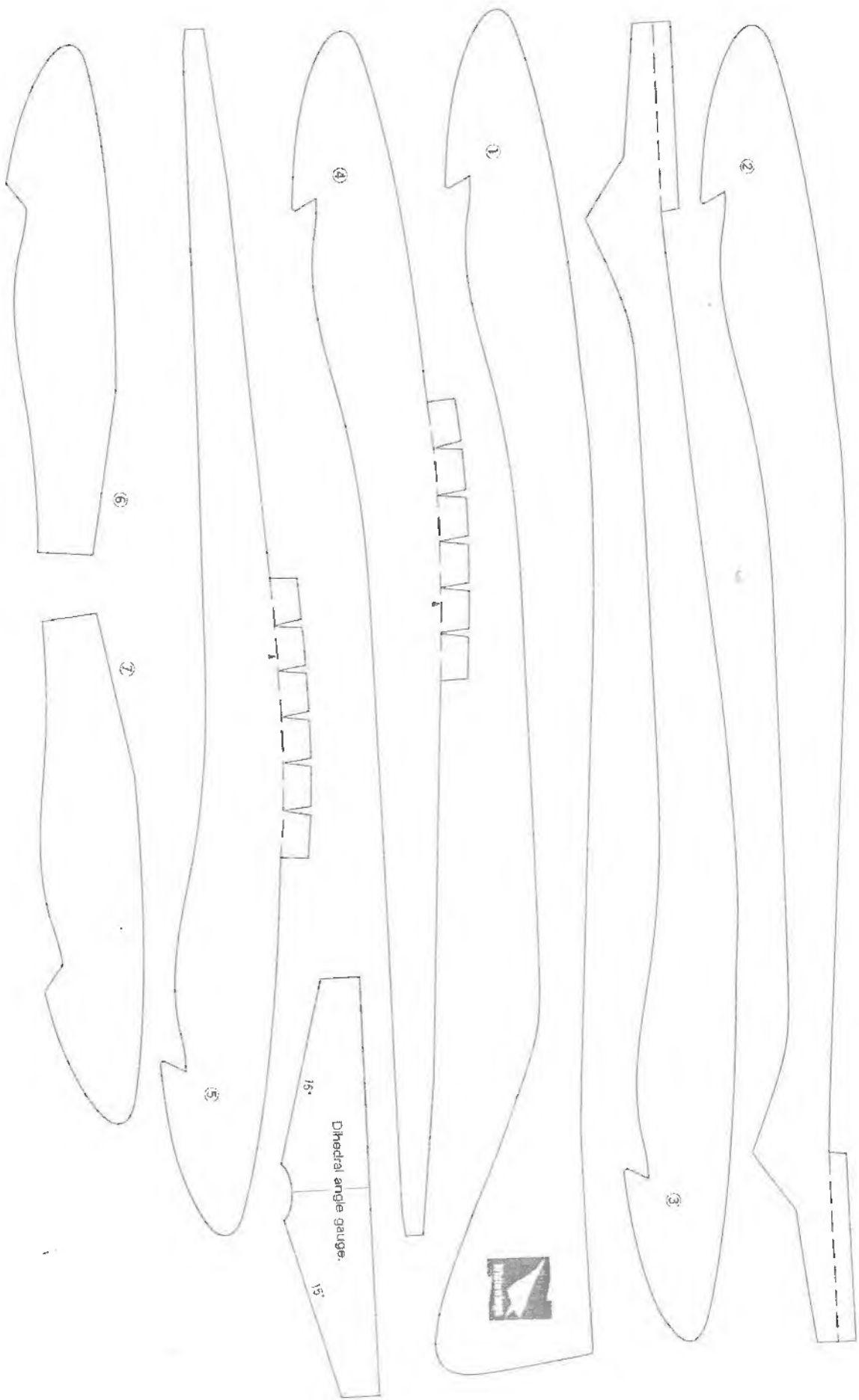


Whitewings
Racer 521 JACQUELINE

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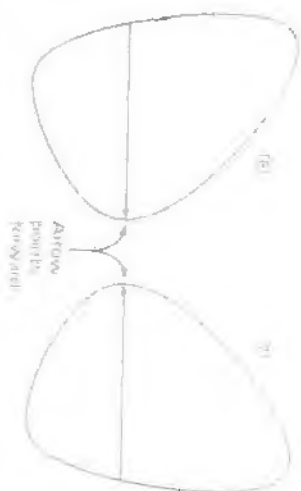
Fold with dashed line inside
Arrows point forward





Make firm
creases along
the dashed lines.

Arrow
points
forward



Arrow
points
forward

Lindberg model airplane

Cut along the solid lines
up to the dashed line

5

Arrow
points forward

Cut along the solid
lines up to the
dashed line

Arrow points forward

Fold with dashed lines inside.
Arrows point forward.



Bend-resistant
direction

WhiteWings

Trilinear 701 LINDBERG

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①

Arrow
points
forward

②

Make left
seam along
the dashed line

Arrow points forward

③

WhiteWings
STADIUM

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These definitions are not mutually exclusive, and the two fields overlap significantly.

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